

## PATENT

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## REMARKS

Claims 1-22 are pending in the application. Claims 1-22 have been rejected.

Objections to the Specification

The specification was objected to because of the following informalities: in the specification, page 9, line 8, the terms "forward link" and "reverse link" were inadvertently interchanged. The terms have been corrected.

Claim Objections

Claims 8, 9, 19, and 21 were objected to because of the following informalities:

Claim 8, line 2, "form" has been changed to "from"

Claims 8 and 9, line 2 "the first link" has been changed to "a first link"

Claims 19 and 21, line 5 "the first link" has been changed to "a first link".

Claim Rejections under 35 U.S.C. § 112

Claims 1-6, 10-17, 21, and 22 were rejected under 35 U.S.C. § 112 as failing to comply with the enablement requirement. The Examiner states "It is not clear where it is described in the Detailed Description that data is transmitted on the same link as scheduling information. In particular, it is not clear where it is described that 'data' is transmitted on a first link (the first link corresponding to the forward link, base station to subscriber station link). Further it is not clear where it is described that scheduling information and data are transmitted together (claim 2). Also, it is not clear where it is described that 'authorization for the pre-scheduled transmission of data' is transmitted (claims 10, 11, 21, and 22).

Applicant respectfully submits that claims 1-6, 10-17, 21, and 22 comply with the enablement requirement for the reasons below.

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art

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to make and use the claimed invention. M.P.E.P. § 2164.01 The enablement requirement of 35 U.S.C. 112, first paragraph, is separate and distinct from the description requirement. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116-17 (Fed. Cir. 1991). Therefore, the fact that an additional limitation to a claim may lack descriptive support in the disclosure as originally filed does not necessarily mean that the limitation is also not enabled. In other words, the statement of a new limitation in and of itself may enable one skilled in the art to make and use the claim containing that limitation even though that limitation may not be described in the original disclosure. M.P.E.P. § 2164

In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. M.P.E.P. § 2164.04

Applicant respectfully submits that transmitting data and scheduling information on the same link is an inherent property of scheduled communication systems and is known to those of skill in the pertinent art. Given that the forward and reverse links describe communications between a base station and a subscriber station and the direction of those communications, it is inherent that data and scheduling information must be transmitted in the appropriate direction to the proper party to the communication. Furthermore, Applicant's invention is directed toward "A Method and Apparatus for Predictive Scheduling in a Bi-directional Communication System" and the method may be utilized with any manner of bundling data and information for transmission. The Examiner has provided no reasoning as to why the disclosure would not enable one to make and use the claimed invention. Rather, the Examiner has merely stated that the quoted elements are not explicitly discussed within the detailed description. At present, the Examiner has not met the minimal requirement by giving reasons for the uncertainty of the

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enablement. Applicant respectfully requests that the rejections of claims 1-6, 10-17, 21, and 22 be withdrawn.

**Claim Rejections under 35 U.S.C. § 102**

Claims 1-6 and 12-17 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,923,650 A to Chen (hereinafter "Chen").

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (Aug. 2001) (*quoting Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Id.* (*quoting Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1051, 1053 (Fed. Cir. 1987)). In addition, "the reference must be enabling and describe the applicant's invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." *In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

Applicants respectfully submit that claims 1-6 and 12-17 are not anticipated by Chen for the reasons and explanations set forth below.

Chen discloses a multi-level scheduling method for improved utilization of the reverse link. (Abstract) The method uses transmission rate reassignment to improve reverse link utilization. Reverse link reassignment may be performed every frame (Col. 15, line 14) or every K frames (Col. 15, line 25). The transmission rate can be reassigned during the scheduling period to match the available reverse link demand with available reverse link capacity. (Col. 15, line 25-27) During the scheduling period, if the reverse link capacity for the cells does not support data transmissions at the maximum scheduled transmission rates, the channel scheduler directs data transmissions at lower transmission rates. For each frame in which the reverse link capacity for the cells is inadequate to service the demand by the scheduled and unscheduled tasks, the channel scheduler determines the amount of increase in the reverse link demand and the available reverse link capacity. The channel scheduler then assigns lower transmission rates for some or all scheduled users such that the capacity required by the users does not exceed the total

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capacity available for the cells. (Col. 15, lines 40-48) The channel scheduler can also attempt to minimize the transmission rate reassignment by increasing the total capacity available for the cells. (Col. 15, lines 54-56) The transmission rate reassignment is performed every frame (in the exemplary embodiment) to ensure that the capacity required for the scheduled and unscheduled tasks is less than the total reverse link capacity available for the cells. The schedule of the temporary transmission rates is transmitted to the scheduled users who have been reassigned with temporary transmission rates. (Col. 15, lines 60-66) Alternatively, if the remote station determines that its available transmit power supports data transmission at a higher transmission rate and the queue size is large, the remote station can request a transmission rate increase during the scheduling period. (Col. 17, lines 23-27)

The Examiner states that the data frame labeled 316 in Figure 10 contains scheduling information. However, box 316 contains the label "Remote Station Processes Data Frame k+5 and Determines Max Rate for Frame k+7". Applicant respectfully submits that this is not scheduling information. According to Chen "During frame k+6, remote station 6 processes the forward link signal, determines the maximum scheduled transmission rate, and reconfigures the hardware, if necessary, for data transmission at the high speed transmission rate at block 316". (Col. 30, lines 39-44). Chen only assigns transmission rates during the scheduling period. Furthermore, the scheduling and rate assignment is based on the amount of data in the remote station's queue to be transported and the transmission power available for transmitting the data. This is not "determining a transmission schedule based on a feedback relationship or a pre-scheduled transmission" as found in amended claim 1. Therefore, Applicant submits that claim 1 is not anticipated by Chen.

Claim 2 depends directly from claim 1 and contains additional limitations and is allowable as depending from an allowable claim.

Claim 3 is allowable for the same reasons given above for claim 1. However, claim 3 is further allowable as Chen also does not disclose the following element of claim 3: "scheduling transmission on the link in the communication system in accordance with a reception of said transmitted data on the first link". As stated above, Chen bases assignment and reassignment of transmission rates on the amount of data a remote station has in a transmit queue and the

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available reverse link capacity. This is not "scheduling transmission on the link in the communication system in accordance with a reception of said transmitted data on the first link". Therefore, Applicant respectfully submits that Chen does not disclose all the elements of claim 3 and requests that the rejection of claim 3 be withdrawn.

Claims 4-6 are each allowable as depending directly or indirectly from an allowable base claim.

Claims 12-17 are allowable for the same reasons given above for claim 1.

#### Claim Rejections under 35 U.S.C. § 103

Claims 7-11 and 18-22 were rejected as being unpatentable over Chen in view of U.S. Patent Publication 2001/0029178A1 to Criss et al (hereinafter "Criss"). This rejection is respectfully traversed.

To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure." *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that a prima facie case of obviousness has not been established regarding claims 7-11 and 18-22 because the prior art cited does not teach or suggest all the claim limitations.

Chen has been discussed above and that discussion applies to this analysis.

Criss teaches a method for wireless software upgrades with version control. (Title) Each mobile device includes a software update schedule table that provides one or more times at which the mobile device is to inquire and obtain available software upgrades. (par. 0012) Wireless updates are provided by the host computer and FTP server in sequential, non-overlapping time intervals during low-load periods so as to minimize wireless interference and contention in obtaining access to the upgraded software files. (par. 0013) Just following the bootup routine, or at any time thereafter, the host computer requests from the mobile terminal indicia which identify the version of software the mobile terminal is running. The host computer

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then compares the version of operating software stored within the mobile terminal with the latest version of software known to be available in the FTP server. It is assumed that the software in the FTP server has been upgraded since the last log in of the mobile terminal. The host computer transmits a request to the mobile terminal to have its operating software upgraded. Upon receipt of the request, the mobile terminal initiates an exchange with the FTP server to download the latest version of the operating software. (par. 0051)

Applicant respectfully submits that neither Chen nor Criss teaches the limitation: "ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link", found in claim 7. Criss teaches a method for updating software on a mobile terminal and does not teach scheduling based on link capacity. A software upgrade is not a normal transmission, instead it is an unusual, often much larger download of data than a normal link transmission. While it is routine to upgrade a mobile station's software, such transmissions are not carried out in the same manner as routine link transmissions. Furthermore, no routine link transmissions take place during a software download. Despite diligent study of the Criss reference, Applicant is unable to find any teaching or suggestion of the limitation "ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link".

In addition, it would not be obvious to combine the methods of Chen and Criss because there is no reasonable expectation of success. Chen teaches reverse link rate reassignment, while Criss teaches software downloads to one mobile station at a particular time. Combining the two references results in a method that assigns a reverse link rate to a software download, a forward link transmission.

Furthermore, Criss teaches away from Applicant's invention. Criss teaches a forward link software download to one mobile system at a time. This is in conflict with a CDMA wireless communication system, whose operation is designed to allow multiple users on the same frequency band at the same time. It would not be obvious to combine a software download to one mobile station with a method for multiple simultaneous transmissions.

In making the rejection of claims 7-11 and 18-22 the Examiner cites no specific passages from Criss to support the reasoning. The rejections based on Criss are conclusory statements that the teachings of the claim are obvious with no supporting citation to Criss. Applicant has

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diligently studied the Criss reference and is unable to find any teaching of "ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link".

Claims 8-11 depend directly or indirectly from claim 7 and contain additional limitations and Applicant submits are allowable for the same reasons given above for claim 7.

Claim 18 is allowable for the same reasons given above for claim 7.

Claims 19-22 depend either directly or indirectly from claim 18 and contain additional limitations and Applicant submits are allowable for the same reasons given above for claim 7.

### REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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